

855.2.03 Steel H-Pile**A. Requirements**

1. Type

Use steel for H-pile that meets the requirements of ASTM A 709/A 709M, Grade 36/250. Use one of the suppliers listed on QPL 44.

2. Cast Steel H-pile Points

For each shipment of cast steel H-pile points, submit to the Engineer a report that includes results of tests to certify compliance with ASTM A 27/ A 27M.

Use only the H-pile points shown on QPL 37.

3. Certification

Submit certified mill test reports to the Engineer that show the physical and chemical properties of each heat or lot of materials and compliance with these Specifications.

B. Fabrication

1. Make cast steel H-pile points from cast steel that meets ASTM A 27/ A 27M Grade 65-35 (450-240).

2. Ensure that the points give the maximum protection to the outer corners of the H-pile and have a wide surface area to support the pile flanges.

3. Ensure that the manufacturer's name or identification mark, pattern number, and heat number are cast or stamped on all castings.

C. Acceptance

1. The Department will accept the material based on the certifications or on the results of tests conducted by the Department.

2. The Geotechnical Bureau of the Office of Materials and Research will evaluate cast steel pile points.

D. Materials Warranty

General Provisions 101 through 150.

Section 857—Bronze Bushings, Bearings, and Expansion Plates**857.1 General Description**

This section includes the requirements for the following:

- Bronze bearings and expansion plates
- Bronze bushings
- Self-lubricating bronze bearings, expansion plates, and bushings

857.1.01 Related References**A. Standard Specifications**

General Provisions 101 through 150.

B. Referenced Documents

ANSI B 46.1

ASTM B 22, Alloy UNS91100

ASTM B 100, Alloy UNS 51000

ASTM B 584 Alloy UNS C86200

857.2 Materials

857.2.01 Bronze Bearings and Expansion Plates

A. Requirements

1. Type

Use bearings and expansion plates that meet the following requirements:

- a. Cast Bronze: ASTM B 22, Alloy UNS91100.
- b. Rolled Bronze: ASTM B 100, Alloy UNS 51000.

2. Certification

Furnish certification to the Engineer showing physical and chemical properties of the material and conformance to these Specifications.

B. Fabrication

Finish contact surfaces of plates in the direction of motion specified by ANSI B 46.1, No. 125 (No. 3.2 μm).

C. Acceptance

The Department will accept the material based on the certifications.

D. Materials Warranty

General Provisions 101 through 150.

857.2.02 Bronze Bushings

A. Requirements

1. Type

Use bronze bushings that meet ASTM B 584, Alloy UNS C86200 requirements.

2. Certification

Furnish a certification to the Engineer showing physical and chemical properties of the material and conformance to these Specifications.

B. Fabrication

Finish contact surfaces of bushings in the direction of motion specified by ANSI B 46.1, Nos. 63 to 125 (1.6 to 3.2 μm).

C. Acceptance

The Department will accept the material based on the certifications.

D. Materials Warranty

General Provisions 101 through 150.

857.2.03 Self-lubricating Bronze Bearings, Expansion Plates, and Bushings

A. Requirements

1. Type

Use self-lubricating bronze bearings, expansion plates, and bushings that meet Subsection 857.2.01 or 857.2.02.

- a. Ensure that the surfaces of self-lubricating bronze bearings, expansion plates, and bushings are bored in a geometric, recessed pattern. Use a lubricating material in the bearing areas that has a long service life.
- b. Lubricate approximately 25 percent of the bearing face.

B. Fabrication

General Provisions 101 through 150.

C. Acceptance

The Department will accept the material based on the certifications.

D. Materials Warranty

General Provisions 101 through 150.